



42A04NW0168 83.653 KENOGAMING

CREMAC SURVEY

Report on Magnetometer & Electromagnetic Surveys

Kenogaming Township Property, Ontario

for

DUNVEGAN MINES LIMITED

INTRODUCTION

A magnetometer survey and an electromagnetic survey were recently made of quite a large area held by Dunvegan Mines in Kenogaming Township. The surveys covered an area lying east of Henrahan Lake in the west central part of the township. Field work started in the middle of May and was completed by July 15th, 1955.

Reconnaissance geology of the area is shown on Map No. 33g of the Ontario Department of Mines.

MAPS & REPORT

The magnetometer and electromagnetic results are shown on the following maps, which are titled "Dunvegan Mines Limited."

Magnetometer Survey - Twp. of Kenogaming
July 1955, Scale - 1" = 400'

Electromagnetic Survey - Twp. of Kenogaming
July 1955, Scale - 1" = 400'

Magnetometer & Electromagnetic Surveys
Twp. of Kenogaming - Detail "A"
July 1955, Scale - 1" = 100'

The electromagnetic map and the detail map show the positions of the conductors located and all the readings obtained in the survey. Readings are in degrees, with a minus sign indicating an angle of dip to the south, or if no minus sign then the angle of dip is to the north.

The magnetometer map and the magnetometer detail show all the magnetic readings in gammas and show zones of varying magnetic intensity. In addition, the conductors are shown to indicate their relation to magnetic zones.

A separate sketch map was prepared and is attached to the report. This map shows the positions of the lines surveyed, the claims in the survey area and some of the physical features.

DISCUSSION OF SURVEY RESULTS

Magnetometer Survey

The magnetometer work indicated a number of magnetic zones varying from weak to very strong. The magnetic zones tend to be rather isolated and non-continuous, however, the trend of the formations can be discerned. The formations are indicated as striking in a direction of $N65^{\circ}W$ to $N80^{\circ}W$ magnetic, with the exception of the zone in Detail "A" which strikes approximately NE magnetic.

The most interesting zone magnetically is that covered by Detail "A" which shows two parallel zones of very strong intensity. These strike about $N60^{\circ}E$ magnetic. The southern zone is quite continuous for about 600 feet but the northern zone is less continuous, although it does extend for a greater length. Intensities range to over 14,000 gammas.

A short distance to the northeast of the Detail "A" area is a zone of fairly strong magnetic intensity. This zone may be a continuation of that in the Detail "A" area, but detail work would be required to determine if there is a connection between them.

The rest of the magnetic zones in the area surveyed are relatively isolated and of only moderate intensity. The two magnetic zones near Hanrahan Lake are the largest of these with the others being fairly small.

Electromagnetic Survey

The electromagnetic work located two strong conductors in Detail "A" area and a number of weak isolated conductors elsewhere.

In Detail "A" area there are two parallel conductors each having quite an appreciable length. Conductivity varies along the conductors but is very strong in places and both are quite distinct. The southern one has a length of 900 feet, while the other extends for 1,200 feet. The latter may be offset a short distance at the north end or there may be a

change in strike. These two main conductors coincide quite closely with the magnetic zones and there appears to be a definite connection between conductors and magnetic zones.

A weak conductor on three lines was located on Line 15E to 24E north of the Base Line and a similar one occurs right beside the Base Line on Lines 72W to 80W. These conductors are quite weak and appear to follow the trend of the formations. They are not connected with any magnetic zones or any noted structural or topographic features.

The remainder of the conductors are short, without continuity and quite weak. They do not appear to be of interest.

GENERAL INFORMATION

A number of rock types occur in the area surveyed. The most common rocks are altered volcanics but basic intrusives, iron formation and altered peridotite also occur.

Some trenching was done along the conductor-magnetic zones in the Detail "A" area and sulphides were seen to occur along these zones. The sulphides are mostly iron sulphides although some chalcopyrite was noted. In the area where the mineralization occurs some of the rocks noted are badly sheared and contorted so that their structural position cannot be determined. The conductors are probably due in part to these sheared zones and in part to the sulphide mineralization.

In the Detail "A" area several pits expose the rocks near the conductor zones. Iron formation occurs in some pits and in other pits a basic intrusive is noted. This basic intrusive may be diabase although in some pits it appears to be dioritic. There may be one or more bodies of basic intrusive and the conductor zones could be along the margins of the intrusive. Such a theory could explain the conductor zones cutting across the formational trend of the other rocks. However, the rocks are not well enough exposed to be certain of the relationship between the conductors and the basic intrusives.

CONCLUSIONS & RECOMMENDATIONS

The electromagnetic and magnetometer work located two strong conductors which occur in conjunction with two strong, distinct magnetic zones. These conductor-magnetic zones occur in sheared rocks containing sulphides and the conductors are

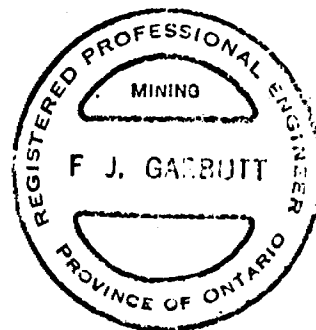
probably due in part to the sheared rocks and in part to the sulphides. Basic intrusive diabase or diorite is known to occur and it is possible that the conductor-sulphide zones occur along the margins of the basic intrusive.

As copper sulphides are known to occur along the strong conductor-sulphide zones, further work is warranted to investigate the possibilities of the conductor zones. Drill holes cutting the conductors under some of the copper bearing pits would give useful information on the geology and mineral content of the zones. A diamond drilling program to investigate the conductor-sulphide zones is recommended.

F. J. Garbutt

Fred J. Garbutt, P. Eng.,
CREMAC SURVEYS LIMITED.

September 22nd, 1955.



48+00N

44+00N

40+00N

36+00N

32+00N

28+00N

24+00N

20+00N

16+00N

12+00N

8+00N

4+00N

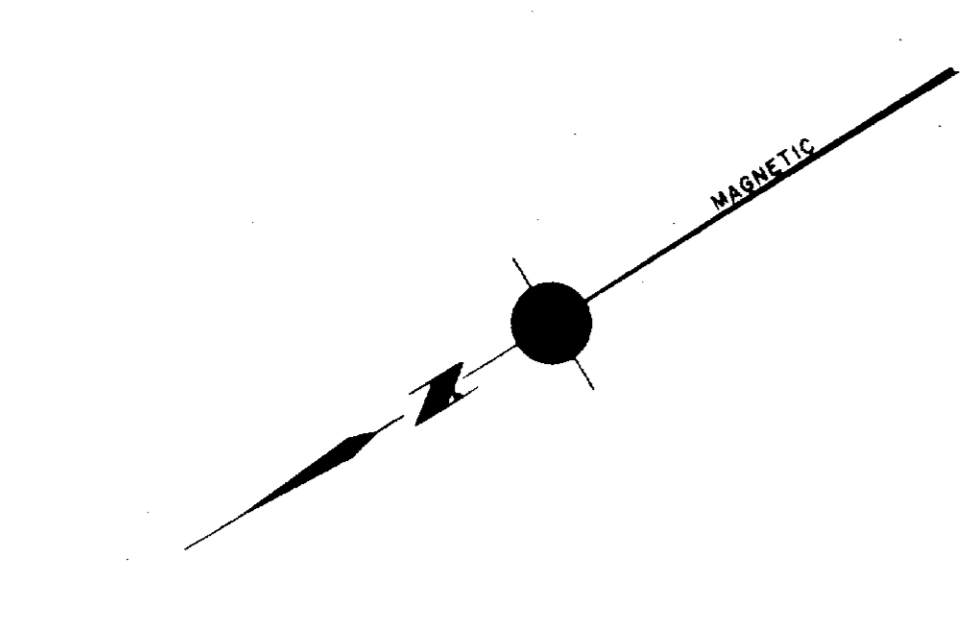
BASE LINE

4+00S

8+00S

12+00S

16+00S



BASE LINE NR 2

4+00S

8+00S

12+00S

16+00S

20+00S

24+00S

28+00S

32+00S

36+00S

40+00S

44+00S

48+00S

52+00S

56+00S

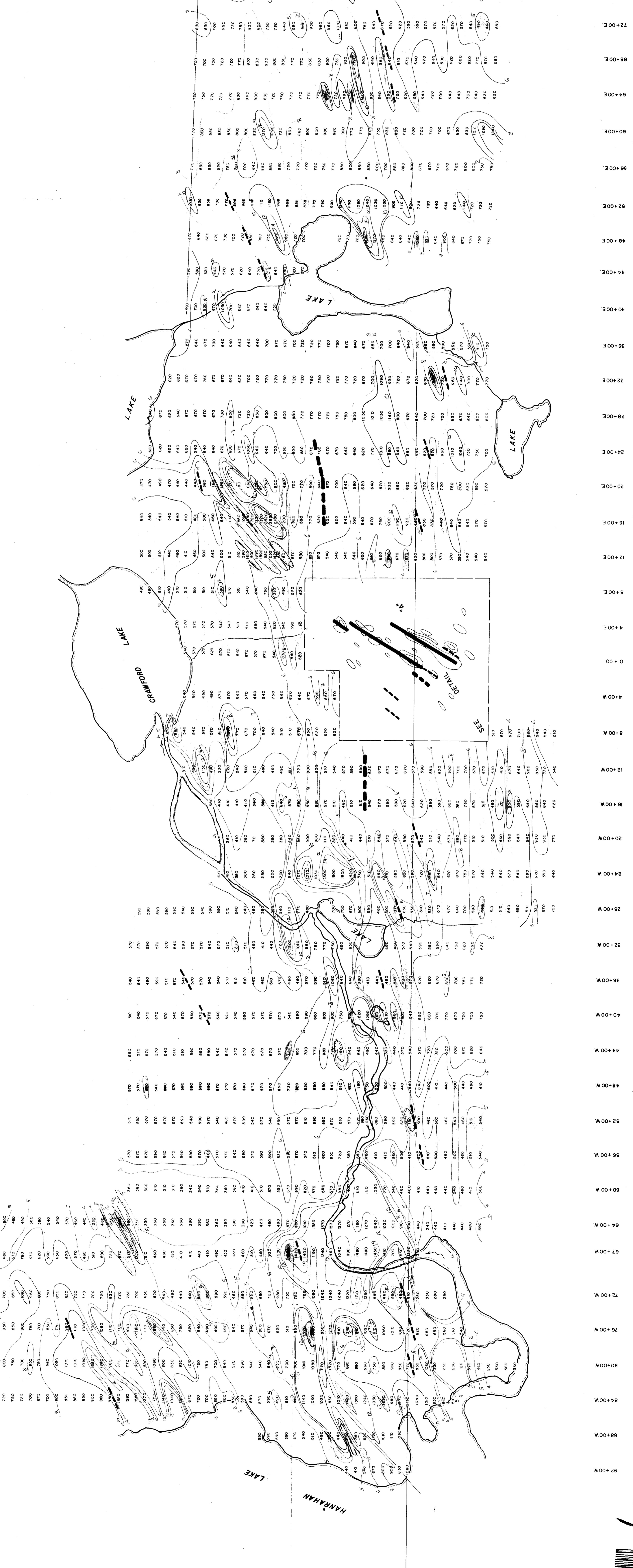
60+00S

64+00S

68+00S

72+00S

76+00S



LEGEND
Magnetometer - reading in gamma
Conductor - Position of site
Conductor - Position of site
Conductor - Estimate

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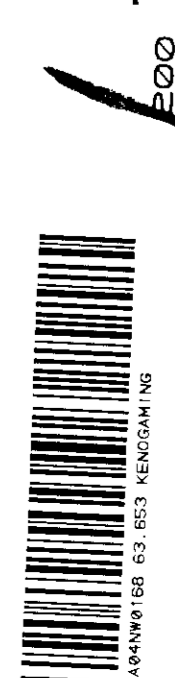
TWP. OF KENOGAMING
SUDBURY MINING DIVISION
MAGNETOMETER SURVEY

JULY 1955

SCALE 1" = 400'

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24 KING ST. WEST - TORONTO

63-653



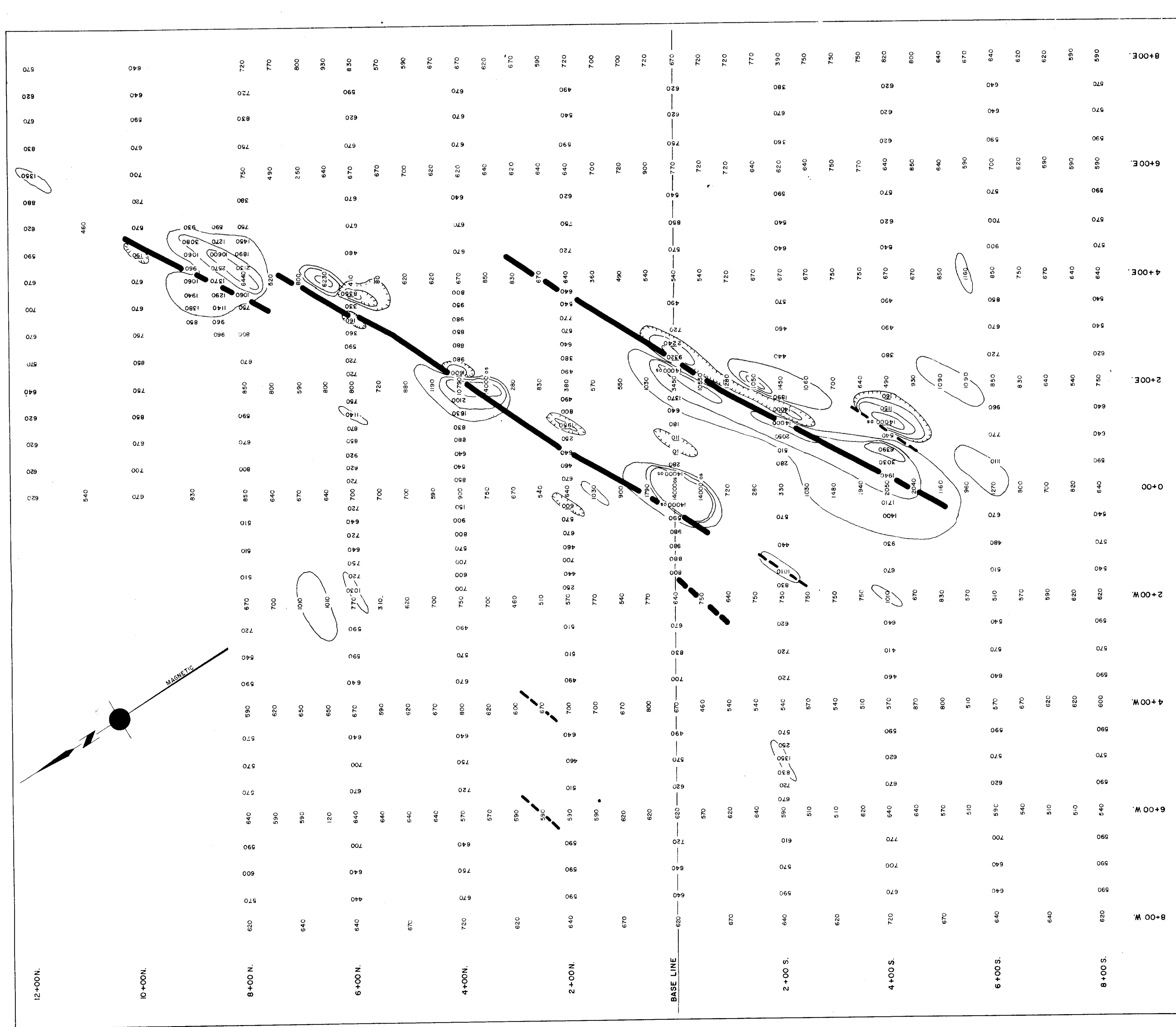
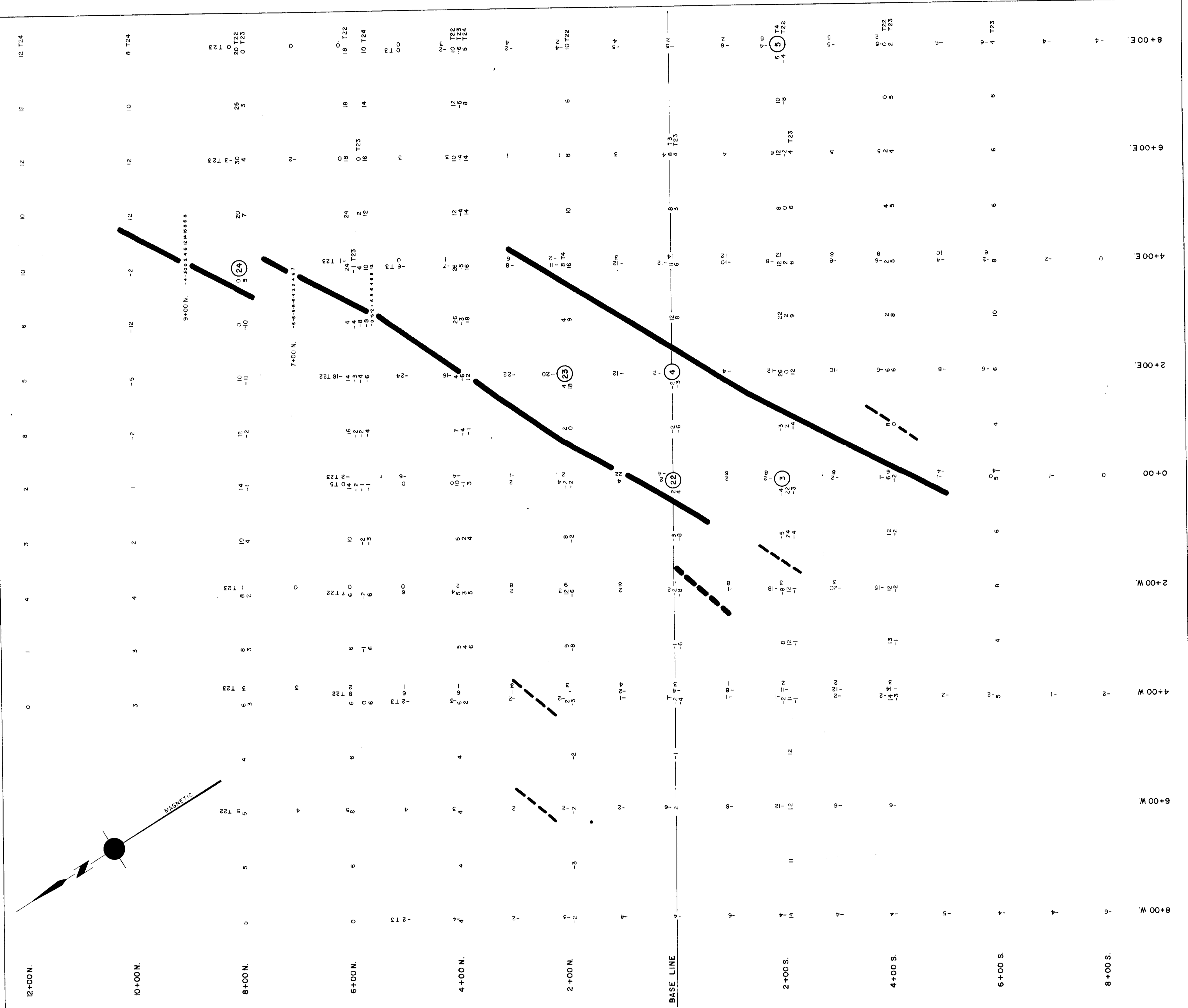
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TWP. OF KENOGAMING
SUDBURY MINING DIVISION
MAGNETOMETER & ELECTRO-MAGNETIC SURVEYS
OF DETAIL "A"
JULY 1955

SCALE 1" = 100'

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LEGEND
Magnetometer readings in gamma
Transmitter position & number
Receiver readings with transmitter number
shown at end of the series of readings
Conductor - Position of sink established
Conductor - Position of sink uncertain
Conductor - Existence uncertain



48+00 N.

44+00 N.

40+00 N.

36+00 N.

32+00 N.

28+00 N.

24+00 N.

20+00 N.

16+00 N.

12+00 N.

8+00 N.

4+00 N.

BASE LINE

4+00 S.

8+00 S.

12+00 S.

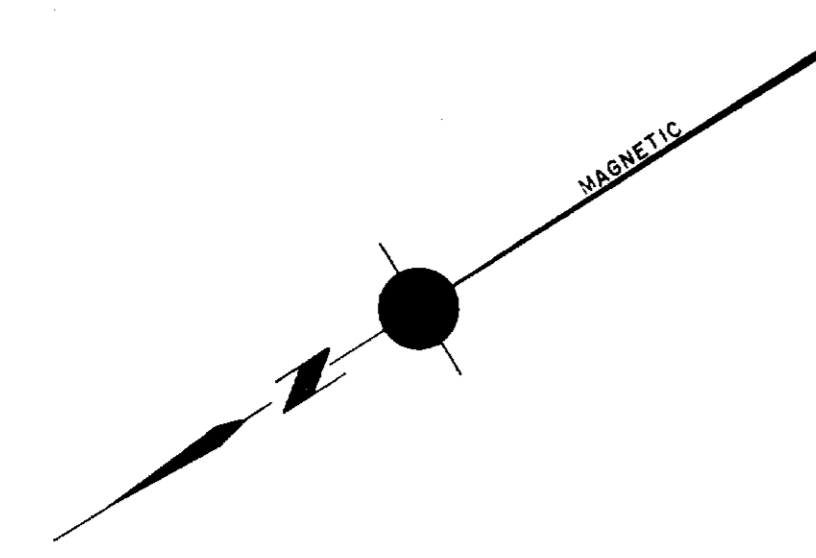
16+00 S.

20+00 S.

24+00 S.

28+00 S.

32+00 S.



LEGEND

Magnetometer readings in gauss

Conductor - Position of axis established

Conductor - Position of axis uncertain

Conductor - Existence uncertain

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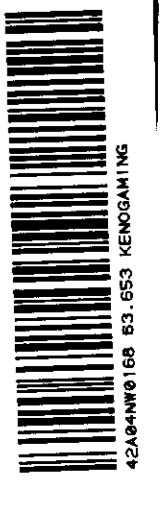
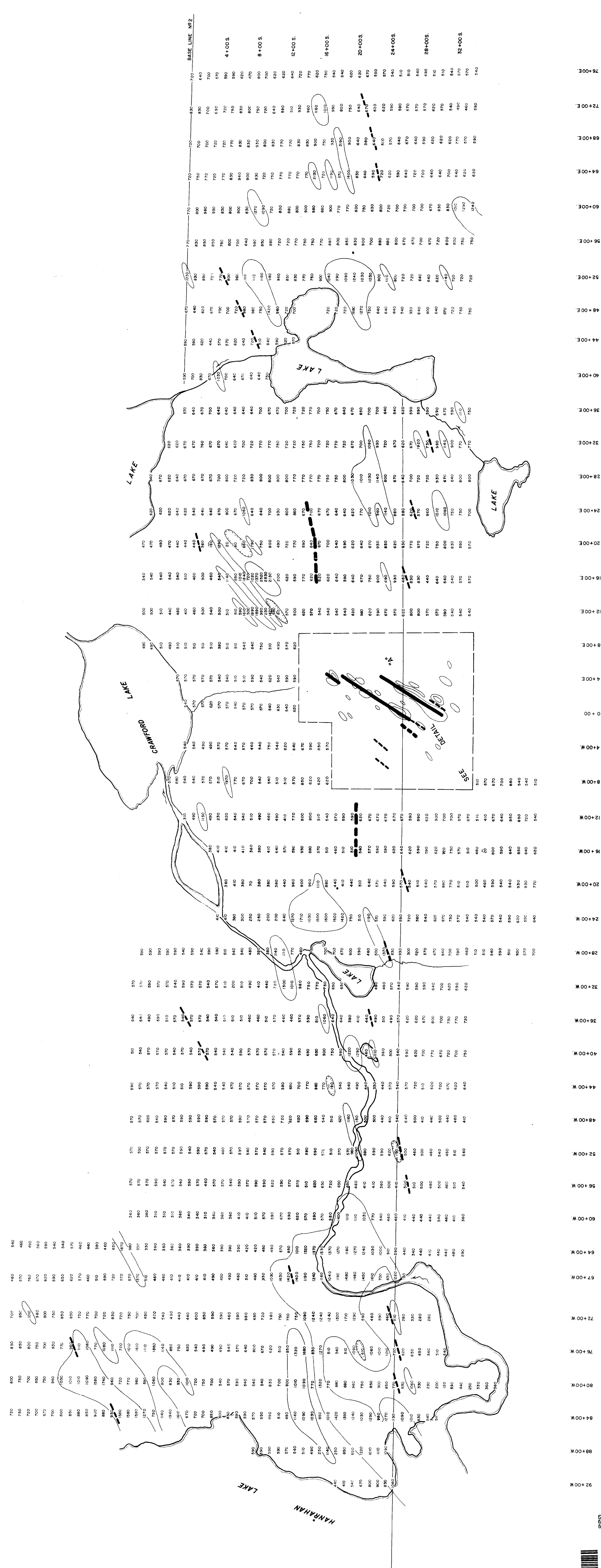
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 SUDBURY MINING DIVISION
 MAGNETOMETER SURVEY

JULY 1955

SCALE 1" = 400'

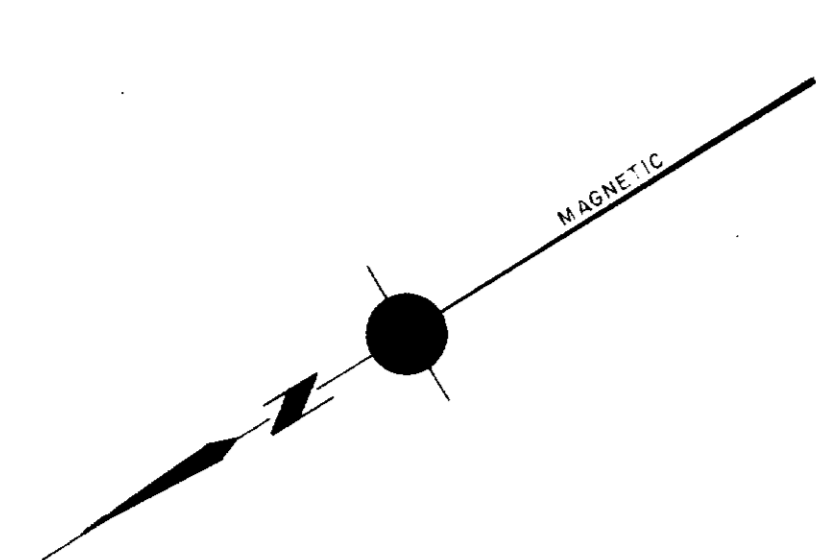
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G.S. 653

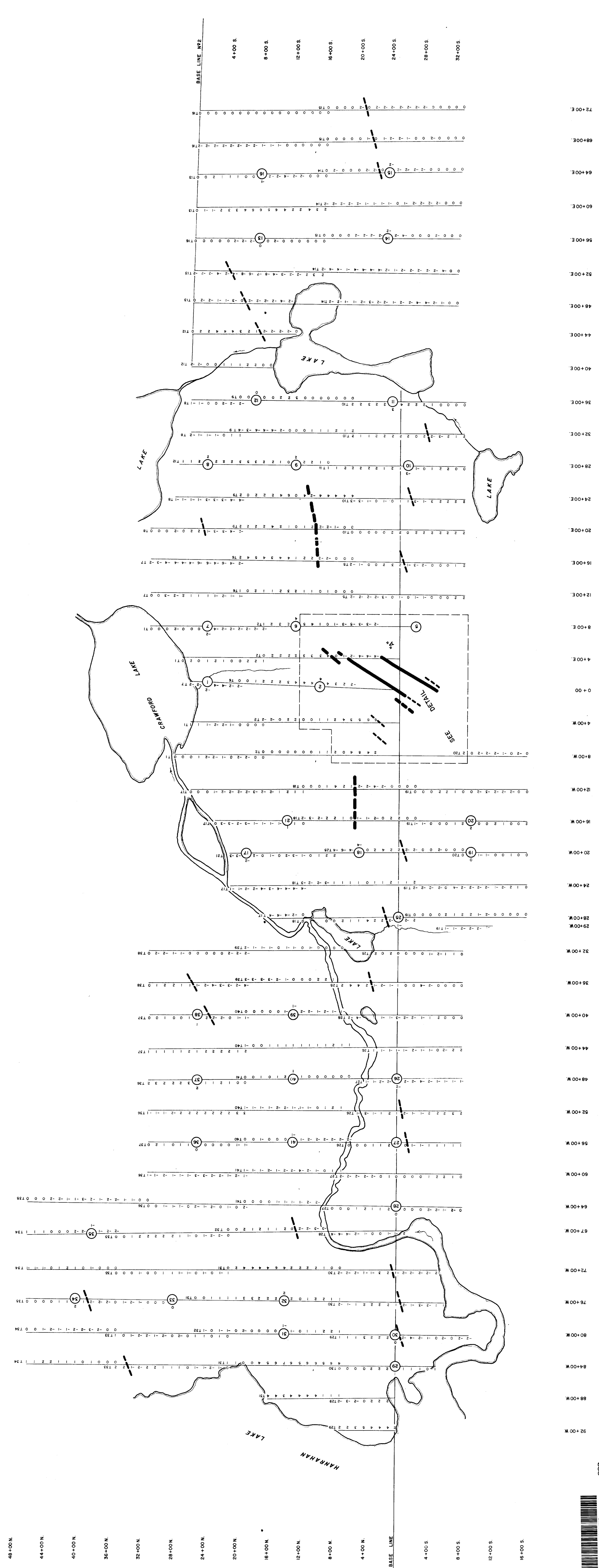


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SUBBURY MINING DIVISION
ELECTRO-MAGNETIC SURVEY
JULY 1955
SCALE 1" = 400'

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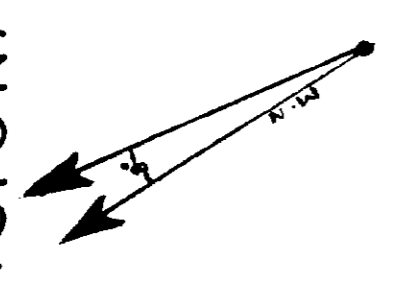


LEGEND
 Transmitter station B number
 Receiver readings with transmitter number
 shown at end of the series of readings
 Conductor - Position of ore established
 Conductor - Position of ore unestablished
 Conductor - Existence uncertain



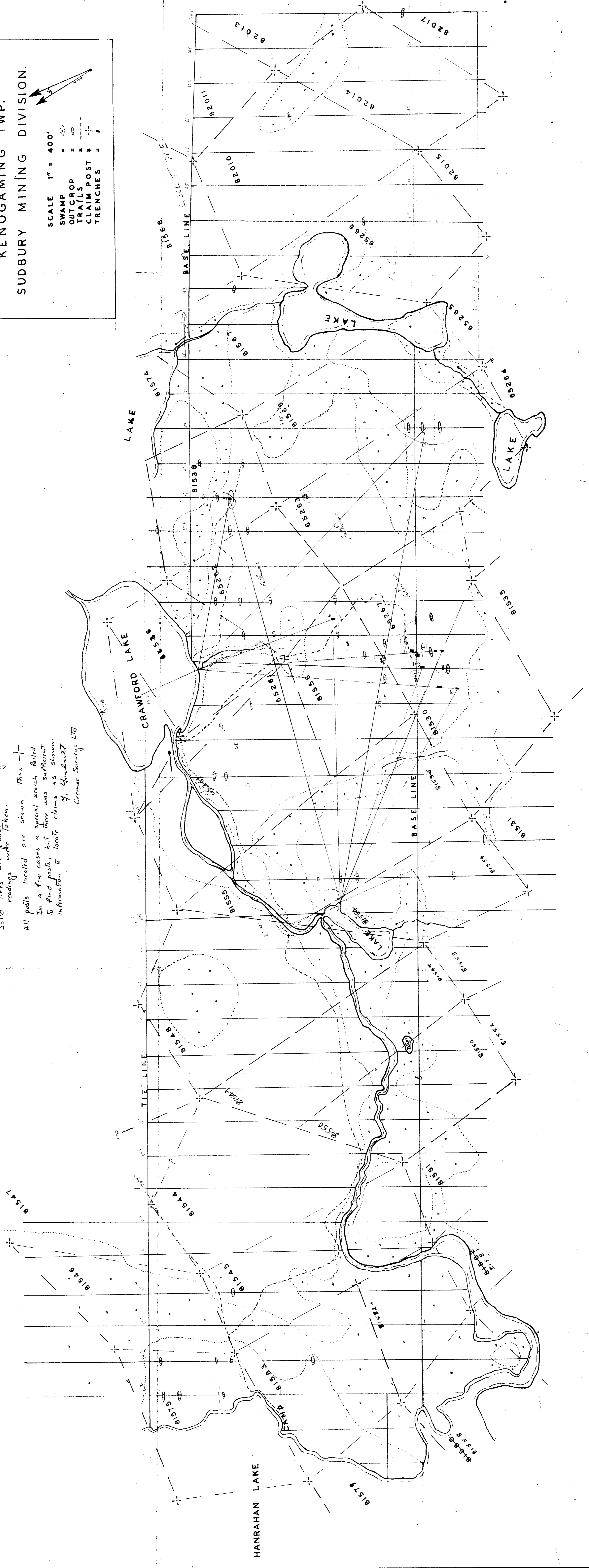
**DUNVEGAN MINES LTD.
KENOGAMING TWP.
SUDBURY MINING DIVISION.**

SCALE 1" = 400'
 SWAMP = [Symbol]
 OUTCROP = [Symbol]
 TRAILS = [Symbol]
 CLAIM POST = [Symbol]
 TRENCHES = [Symbol]



SKETCH SHOWING
 Geophysical Lines & Area Surveyed
 in relation to
 Claims & Topographic Features

Solid lines are picket lines along which readings were taken.
 All posts located are shown thus —
 In a few cases a special search failed to find posts, but there was sufficient information to locate claims as shown.
 G. Handout
 Cremac Surveys Ltd



02W 03W 04W 05W 06W 07W 08W 09W 10W 11W 12W 13W 14W 15W 16W 17W 18W 19W 20W 21W 22W 23W 24W 25W 26W 27W 28W 29W 30W 31W 32W 33W 34W 35W 36W 37W 38W 39W 40W 41W 42W 43W 44W 45W 46W 47W 48W 49W 50W 51W 52W 53W 54W 55W 56W 57W 58W 59W 60W 61W 62W 63W 64W 65W 66W 67W 68W 69W 70W 71W 72W 73W 74W 75W 76W 77W 78W 79W 80W 81W 82W 83W 84W 85W 86W 87W 88W 89W 90W 91W 92W 93W 94W 95W 96W 97W 98W 99W 100W

